

IN THE DISTRICT COURT OF THE VIRGIN ISLANDS  
DIVISION OF ST. CROIX

ST. CROIX RENAISSANCE GROUP,	:	CIVIL ACTION
LLLP, et al.	:	
	:	
v.	:	
	:	
ST. CROIX ALUMINA, LLC, et al.	:	NO. 04-67

MEMORANDUM

Bartle, C.J.

December 1, 2010

Plaintiffs St. Croix Renaissance Group, LLLP, Brownfield Recovery Corporation, and Energy Answers Corporation of Puerto Rico have sued defendants St. Croix Alumina, LLC and Alcoa World Alumina, LLC in connection with plaintiffs' purchase of an industrial property in St. Croix which was once an alumina refinery. On December 23, 2009, we granted in part and denied in part the motion of defendants for summary judgment. Presently, there remain claims for breach of contract for failure to disclose multiple red mud discharge events and failure to alert plaintiffs to hazardous materials on the property. There are also pending claims for fraud in the inducement for failing to disclose various environmental violations related to red mud releases into the sea.

Now before the court is defendants' Daubert motion seeking to exclude the expert testimony of Phillips Solseng and Ivan Contreras, geotechnical engineers in the employ of BARR Engineering.

Plaintiffs bring this action for breach of contract and fraud in the inducement in connection with various warranties made by defendants in the May 2002 Purchase Sale Agreement ("PSA") for the St. Croix property in issue. One of the warranties contained in the PSA provided that:

... and to Seller's knowledge, there are no such violations outstanding of the Environmental Law, except as disclosed on Exhibit 8.1.6 attached hereto and made part hereof, or in the Environmental Reports.

PSA § 8.1.6. Among the remaining claims, plaintiffs seek to hold defendants, the sellers, liable for a series of undisclosed releases of red mud into the Caribbean Sea in violation of environmental laws. While plaintiffs did learn of a single April 2002 release of red mud into the sea prior to signing the PSA, they contend that there were a series of undisclosed releases, some of which occurred as late as March and April 2002.

The expert report of Solseng and Contreras provides, "It is our opinion that the breaches of the dike and releases of the red mud pile had occurred prior to the reported release by SCA on April 16, 2002. It is also our opinion that the release reported by SCA on April 16 was not the result of a single heavy rainstorm event." These opinions are supported by nine separate findings contained in the report. Many of the findings measure amounts of red mud at various locations of the refinery property. One finding deals specifically with trenches dug to examine the strata of red mud and other soils. Another finding identifies the dating of a Tan Tan tree growing in the midst of a red mud

deposit. From the calculation of the age of the Tan Tan tree, Solseng and Contreras opine that various red mud layers were deposited before the signing of the PSA in May, 2002. Solseng and Contreras also state that their opinions are corroborated by contemporaneous observations contained in documents produced in discovery.

As our Court of Appeals has repeatedly noted, Rule 702 of the Federal Rules of Evidence relating to the testimony of experts embodies three requirements: qualification, reliability, and fit. Pineda v. Ford Motor Co., 520 F.3d 237, 244 (3d Cir. 2008). An expert is qualified if he "possess[es] specialized expertise." Schneider ex rel. Estate of Schneider v. Fried, 320 F.3d 396, 404 (3d Cir. 2003). This does not necessarily require formal credentials, as "a broad range of knowledge, skills, and training qualify an expert," and may include informal qualifications such as real-world experience. In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 741 (3d Cir. 1994); Langbord v. U.S. Dept. of the Treasury, No. 06-5315, 2009 WL 1312576, at \*2 (E.D. Pa. May 7, 2009) (citing Fed. R. Evid. 702 advisory committee's note). The qualification standard is a liberal one, and an expert may be sufficiently qualified under Rule 702 even if "the trial court does not deem the proposed expert to be the best qualified or because the proposed expert does not have the specialization that the court considers most appropriate." Holbrook v. Lykes Bros. S.S. Co., 80 F.3d 777, 782 (3d Cir. 1996).

To determine reliability, we focus not on the expert's conclusion but on whether that conclusion is "based on the methods and procedures of science rather than on subjective belief or unsupported speculation." Schneider, 320 F.3d at 404 (internal quotation marks omitted). Our analysis is flexible and may include such factors as:

(1) whether a method consists of a testable hypothesis; (2) whether the method has been subject to peer review; (3) the known or potential rate of error; (4) the existence and maintenance of standards controlling the technique's operation; (5) whether the method is generally accepted; (6) the relationship of the technique to methods which have been established to be reliable; (7) the qualifications of the expert witness testifying based on the methodology; and (8) the non-judicial uses to which the method has been put.

Pineda, 520 F.3d at 247-48.

Expert testimony must also "assist the trier of fact to understand the evidence or to determine a fact in issue." Fed. R. Evid. 702. Thus, to "fit," such evidence must bear some relation to the "particular disputed factual issues in the case." United States v. Downing, 753 F.2d 1224, 1237 (3d Cir. 1985). Accordingly, this factor has been described as one of relevance. Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 591 (1993); Paoli, 35 F.3d at 745 & n.13.

Defendants challenge the qualifications of Solseng and Contreras as well as the reliability of the methodology they employed. Solseng and Contreras, geotechnical engineers with a

specialty in what is known as mine tailings,<sup>1</sup> first reviewed historical engineering and geotechnical documents for evidence of prior red mud releases. They then conducted a field study of the refinery area known as "Area A," where plaintiffs allege that red mud had been released prior to 2002. They measured the red mud in various parts of Area A and dug eight trenches in order to examine the soil layers. Finally, they cut down a Tan Tan tree that appeared to be growing in several layers of red mud and sent a cross-section of the tree to a BARR Engineering colleague, Daniel Jones, who has been characterized as a plant specialist. Jones attempted to determine the tree's age by counting the rings in its cross-section.

Defendants specifically call into question the reliability of the document review and field study observations by Solseng and Contreras. Defendants allege that Solseng and Contreras cannot rely on several documents contained in their historical review because they are not the type reasonably relied on by engineers. They further maintain that the trenches dug by Solseng and Contreras were located randomly and produced no concrete evidence of multiple red mud layers or the timing of the purported releases.

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1. Unwanted materials that remain after an industrial process has been used to removed desired materials are referred to as "tailings." Specifically, "mine tailings" are those unwanted materials derived from metal extractions, such as alumina refining.

We disagree and find the methods of soil layer analysis to be reliable. Solseng and Contreras reviewed the available literature in order to learn in which areas they were most likely to find the evidence of red mud releases. Such a practice is appropriate. Furthermore, Solseng and Contreras were entitled to rely on their experience in the field for the exact location of the trenches. They performed a standard analysis of the soil strata in each trench, with four trenches revealing discrete layers of red mud and other soils. Solseng and Contreras were not required to conduct their investigation in the "best" manner, merely a generally reliable one. If defendants believe that the methodology employed by Solseng and Contreras is sub-optimal and that different fieldwork would have yielded better evidence, they are free to bring out any deficiencies during cross-examination.

Defendants also call into question the qualifications of Solseng and Contreras in offering their opinion as to the date of the red mud layers based on the age of a Tan Tan tree growing in the area. Solseng and Contreras dated the deposits of the red mud in Area A by identifying when this Tan Tan tree began to grow. During the field study in April 2010, they identified a Tan Tan tree with a root flare that had grown over the surface of the mud. In their expert opinion, if the tree had grown before the red mud releases, the root flare would be below the surface of the ground and covered by releases. They concluded that because the root flare was exposed the tree grew after the mud was deposited. By dating the Tan Tan tree itself, they establish

a benchmark date before which at least one red mud release had occurred.

Solseng and Contreras concede that they themselves do not have the expertise in the dating of the Tan Tan tree. When Solseng and Contreras chopped down the tree, they sent a cross-section of it to their associate Daniel Jones. Jones is a plant specialist with an undergraduate degree in botany and a master's degree in biology. Jones simply counted the dormancy rings in the Tan Tan cross-section. Each ring in a tree's cross-section indicates a period of dormancy, which Jones believed represented a year's time. Based on the rings of the Tan Tan cross-section, Jones estimated that the tree was between 16 and 17 years old, dating its initial growth to 1993-1994. Based at least in part on this date, Solseng and Contreras opine that at least one red mud release had occurred prior to 1993-1994 and thus prior to the reported April 2002 release.

Although in his career Jones has counted annual rings on trees to determine their age, he never took any specific courses in dendrochronology, the science of dating trees, and has no training and minimal expertise in this field. Moreover, he has no experience whatsoever in the botany of tropical regions, including that of St. Croix. Before this project, he had never before done any work in a tropical climate, let alone engaged in dendrochronology in a tropical climate.

Jones relied on two articles to support his contention that Tan Tan trees in tropical climates produce annual rings.

The first article is entitled, "Anatomy of Grown Rings at the Yucatan Penninsula." This article provides:

A variety of environmental stressors (including climate) affect the physiology of trees and these variations are recorded in the tree rings. Thus, dendrochronology has been extensively employed in environmental studies of temperate and high altitude forests, but there have been few applications to date from the tropics (Roig, 2000). One of the main reasons is that many tropical trees do not produce anatomically distinctive annual growth rings that can be used for the development of reliable tree-ring chronologies. (emphasis added)

While this article does arrive at the conclusion that "many woods in this study region will show anatomical growth markers," it does not provide any basis for believing that either the Tan Tan tree specifically or trees in St. Croix generally are among the ones that will.

The second article on which Jones relied, "Leucaena leucocephala (Lam.) de Wit," is authored by John K. Francis. The Francis article provides a general description of Leucaena leucocephala, which is the scientific name for the Tan Tan tree. While the article notes that the Tan Tan tree both grows in the tropics and "has visible annual rings," there is no basis for determining whether its conclusions are authoritative. The Francis article fails to cite any references or studies whatsoever for the proposition that growth rings in the Tan Tan tree are formed on an annual basis. Furthermore, it only identifies Francis as a "Research Forester, U.S. Department of Agriculture, Forest Service, International Institute of Tropical



Forestry." From this description, there is no way to tell whether Francis himself is qualified to opine on the presence of annual rings in the Tan Tan tree in St. Croix. Jones does not state that he knows anything about Francis or whether he is qualified in the field of dendrochronology. The article does not list the education or experience of Francis, and we have no way to know what the qualifications are for a "Research Forester." Simply because a proposition appears somewhere in writing does not mean that the author is qualified to make it or that it is scientifically reliable.

Furthermore, in his deposition, Jones made statements that undermined his conclusion that the Tan Tan tree produces distinct annual rings in tropical climates. He conceded that other environmental conditions, such as drought, can result in periods of dormancy and produce visible rings. He also stated that he did not know whether trees in tropical areas experienced annual periods of dormancy in the winter.

In sum, Jones has no independent qualifications for rendering an opinion on the dendrochronology of a tropical tree. The writings he cites for information on dating a cross-section of Tan Tan tree do not provide the proper support for the contention that the Tan Tan tree generally produces annual rings. They provide no support that St. Croix has the type of climate that would produce an annual winter dormancy period for trees. Jones himself admitted that the rings could have been produced by events other than annual winter dormancy periods. Plaintiffs

bear the burden of proving by a preponderance of the evidence that their proffered expert is qualified. See In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 741-45 (3d Cir. 1994). They have failed to meet that burden here. Even assuming that Solseng and Contreras would be entitled to rely on Jones's work in offering their opinions if Jones himself were a qualified expert, they cannot be permitted under the circumstances to testify regarding the dating of the Tan Tan tree or to provide any opinion resulting from the dating of that tree.

Finally, defendants also contend that this expert testimony does not "fit" the facts of the case because Solseng and Contreras do not opine that the red mud releases reached the Caribbean Sea and thus qualify as a violation of environmental law under the terms of the sale agreement. This argument is unavailing at this time. The testimony of Solseng and Contreras regarding the varying layers of red mud and the likelihood of numerous distinct releases over a period of years may establish that the red mud in Area A did not arrive there via erosion. Plaintiffs will need to present evidence that the red mud reached the sea in order to establish an environmental violation at trial, but they are free to do so in other ways consistent with the Rules of Evidence. The testimony of Solseng and Contreras cannot be said not to "fit" the plaintiffs' claims merely because it does not prove by itself all that plaintiffs must prove to prevail on their claims.

Solseng and Contreras will be permitted to offer their expert opinion at trial. However, they will be precluded from testifying as to the dating or age of the Tan Tan tree or the date of any red mud layer that is based on the dating or age of such tree.

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ST. CROIX ALUMINA, LLC, et al.	:	NO. 04-067

ORDER

AND NOW, this 1st day of December, 2010, for the reasons set forth in the accompanying Memorandum, it is hereby ORDERED that:

(1) the motion of defendants to exclude the expert testimony of Phillips Solseng and Ivan Contreras of BARR Engineering (Doc. #320) is GRANTED in part and DENIED in part;

(2) the motion is GRANTED to the extent that Solseng and Contreras seek to testify about the dating and age of a Tan Tan tree found on the refinery property or to render any opinion based on its age; and

(3) the motion is DENIED in all other respects.

BY THE COURT:

<u>/s/ Harvey Bartle III</u>	
HARVEY BARTLE III	C.J.
SITTING BY DESIGNATION	